

Amendments to the Specification

Nature of correction: Typo on Page 10. In Response to Paragraph 1 of Office Action.

A1
FIG. 2 is a schematic representation Hall thruster with segmented electrode rings **7a** and **7b** on the outer ceramic channel wall **25**. Line **0—0** is an axis of symmetry. Segmented electrode **7b** is near the thruster exit. Hollow cathode **8** emits electrons and neutralizes the flow of ions. An accelerating voltage drop is applied between anode **14** and hollow cathode **8**, such that ions formed near the anode **14** are accelerated towards the thruster exit. The anode **14** can also be a gas distributor. Magnetic field lines ~~[[9]]~~ **10** extend from magnetic pole pieces **11** on the outer ceramic channel wall **25** and intersect magnetic pole pieces **12** on the inner ceramic channel wall **23**. Electromagnetic coils **15** generate the magnetic field, which is guided through magnetic circuit **9** to the pole pieces. (An additional optional matched set of segmented electrodes **7c** and **7d**, placed on the inner channel wall **23** supplements said segmented electrode set **7a** and **7b**, such that said segmented electrode **7c** intersects the same magnetic line of force as does electrode **7a** and is held at the potential of electrode **7a**. Similarly, said segmented electrode **7d** intersects the same magnetic line of force as does electrode **7b** and is held at the potential of electrode **7b**.)

Nature of correction: Amended numbering on Figure 4 on Page ~~12~~¹³. In Response to Paragraph 2 of Office Action.

A2
FIG. 4 shows an example of a non-emissive segmented electrode **7d** (see for example FIG. 3). The electrode, which can be made from graphite, is placed on the inner channel wall **23** at the thruster exit. The electrode **7d** is attached to the wall **23** by the side **13**. To adjust the electrode location on the wall, the side **13** has a step ~~[[14]]~~ **26**, which has outer diameter equal to the inner diameter of the channel wall **23**. The side ~~[[15]]~~ **27** of the electrode faces the plasma. The outer side **16** has a hole **17** for a screw to fix the electrode onto the magnetic pole **12**. This screw must be electrically isolated from the electrode and from the pole. For example, it can be made from a ceramic material. In addition, the

threaded holes **18** allow electrical connection between the segmented electrode and the biased supply cable. The outer side **16**, including all screw heads on this side, is covered by the protective dielectric layer **19** to avoid direct contact with plasma.

Nature of correction: Typo on Page 13. Not in response to the Office Action.

We disclose that the electrodes are configured so as to produce a potential drop over a narrow region, in particular over that region where the magnetic field lines are substantially in the radial direction. Pairs of electrodes, such as segmented electrode **7a** and **7b** (with reference to FIG. 2) accomplish this narrow potential drop. Through the use of emissive electrodes, this potential drop can be produced more effectively over a narrow region, since the plasma sheath will not form effectively. We disclose that it is possible to achieve plume narrowing even with a single segmented electrode at near the cathode potential, provided that said electrode is placed somewhat to the cathode-side of the magnetic field maximum, although better performance can be achieved by employing also an electrode biased near the anode potential on the anode side of the maximum in the magnetic field. Some details of specific desirable electrode placement can be found in the literature (Raiteses et al., "Plume Reduction in Segmented Electrode Thruster," Journal of Applied Physics 88, 1263, August 2000; Fisch et al., "Variable Operation of Hall Thruster with Multiple Segmented Electrodes", Journal of Applied Physics 89, 2040, February 2001), said details being covered also in U. S. Provisional Application Serial Number 60/197,280, filed April 14, 2000, through which the present application seeks priority.